Agrometeorological Seasonal Bulletin

Agromet Project Activities:

Flood Information

Seasonal Agrometeorological Bulletin 2005 - 2006

Helping Agriculture to End HUNGER

Publicationing
Weekly, Monthly
& Seasonal Bulletins

Data Collection

Capacity Building

Crop Monitoring

Establish and Maintenance
Agromet Stations

Agromet Network

USGS science for a changing world

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Crop Phenological Stages

Central Region:

The rainfall in this region began in the second dekad of September and lasted in the 3th dekad of July in Jaghatoo distrect of Wardak Province.

In this region the cultivated areas have presented different crop conditions. The major parts of the central region, crop condition is reported as normal but some areas have crop conditions better than normal. The Karizmir District of Kabul Province, from Jaghatoo District of Wardak Province the crop condition was excellent. Poor crop condition was reported for Kapisa Province and Syagerd District of Parwan Province. The main adverse factors affecting the crop conditions in the whole central region were frost, weeds, pest and diseases ,late planting, and dry spills. Other main problem in this central region was diffeceincy of micronutrient in all of the central region, an area rich of fruit orchards, which lowered production.

East Central Region:

In this region the rainfall started in the second dekad September and lasted in the 3th dekad of may in pajab District, Bamyan Province. The crop condition was normal for most parts of this region and better than normal in others. Some areas experienced weeds problems, such as Panjab and Yakawlang districts of Bamyan Province.

In some arers of Bamyan Province, late planting in January and dry spills during June and July was reported.

Eastern Region:

In most parts of this region rainfall season was started in the second dekad of September and lasted in first dekad in August From major parts of this region the crop condition was normal to excellent. Crop condition in Laghman Province was poor such as in Asad abad as well as in center of Kuner Province.

Main adverse factors in this region were flood, rust, lack of rain, weeds problem and shortage of inputs.

North Eastern Region:

In this region the rainfall started the second dekad of October and lasted first dekad in June in Faizabad center of Badakhshan Province.

In the Major parts of this region the crop condition was normal, where as in some areas of this region like Taloqan center of Takhar and Badghis Provinces the crop condition was better than normal but Baghlan Province has excellent crop condition Faizabad center of Badakhshan reported poor crop condition.

The main adverse factors were frost, wind storm cutworm of irrigated and rain fed wheat, dessert mice, melon flies, flood and too much weeds (surrounding kuduz).

More than 1000 of nature trees have been burned in Farkhar District of Takhar Province.

South Region:

The rainfall started in the first dekad of November 2005 and lasted up to April 2006.

In this region, the majority of the area experienced normal crop condition but Farah Province reported better than normal crop condition, also excellent crop condition reported for Zabul Province. The main adverse factors were lack of rain, dry season, sun pest, and diseases (in Lashkaegah center of Hilmand), storm, wind, shortage inputs and too much weeds reported from(Zarange center of Nemroz and Zabul) Provinces.

South East Region:

The rainfall started the second dekad of September and lasted in the 3th dekad in august in Khost Province. In this region, some areas experienced normal crop condition and others showed better than normal as in Khost Province, also Gardiz center of Paktya has excellent crop condition. Main adverse factors in this region were frost, too much weeds, shortage in puts and heavy flood occurred (in resulting approx (9) person have been killed, 1243 animals have been killed, 7856jerib agriculture land destroyed, 48 kilometer row road destroyed, 7number bridge destroyed, 40 Chakdam of water was damage, 14000 of fruit trees,12number cars,25 number shops,98number houses,325number water pumps and one of oil tank Were destroyed. This is a huge damage.

North Western Region:

The rainfall season in most parts of this region started in the first dekad of November and ended in fisrt dekad of may. In most parts of North West region the crop condition was normal but better than normal reported from Takhtapul district of Balkh Province. Poor crop condition reported for jowzjan Province.

Main adverse factors were pest maifestations such as locust in Balkh and Samangan. In some areas of Jowzjan and Saripul Provinces, sun pest, and irrigation wheat borer reported, also Melon flies, worm of apple and tomato reported from all of region.

Western Region:

In all parts of this region rainfall season began in the first dekad of November and ended in the fisrt dekad of Aprile. Most parts of this region reported normal to excellent crop condition, such as in shendand of Hirat Province. Poor crop condition was reported in Maqur area in the Ghor Province and Qalai-e- new center of Badghis Province.

Main adverse factors for the whole region were pest and diseases, too much weeds as Chakhcharan center of Ghor and Qlai-e-new center of Badghis Provinces, lack of rain, late planting, sun pest and shortage of inputs such as tractor, trashier, seed cleaning machine etc.

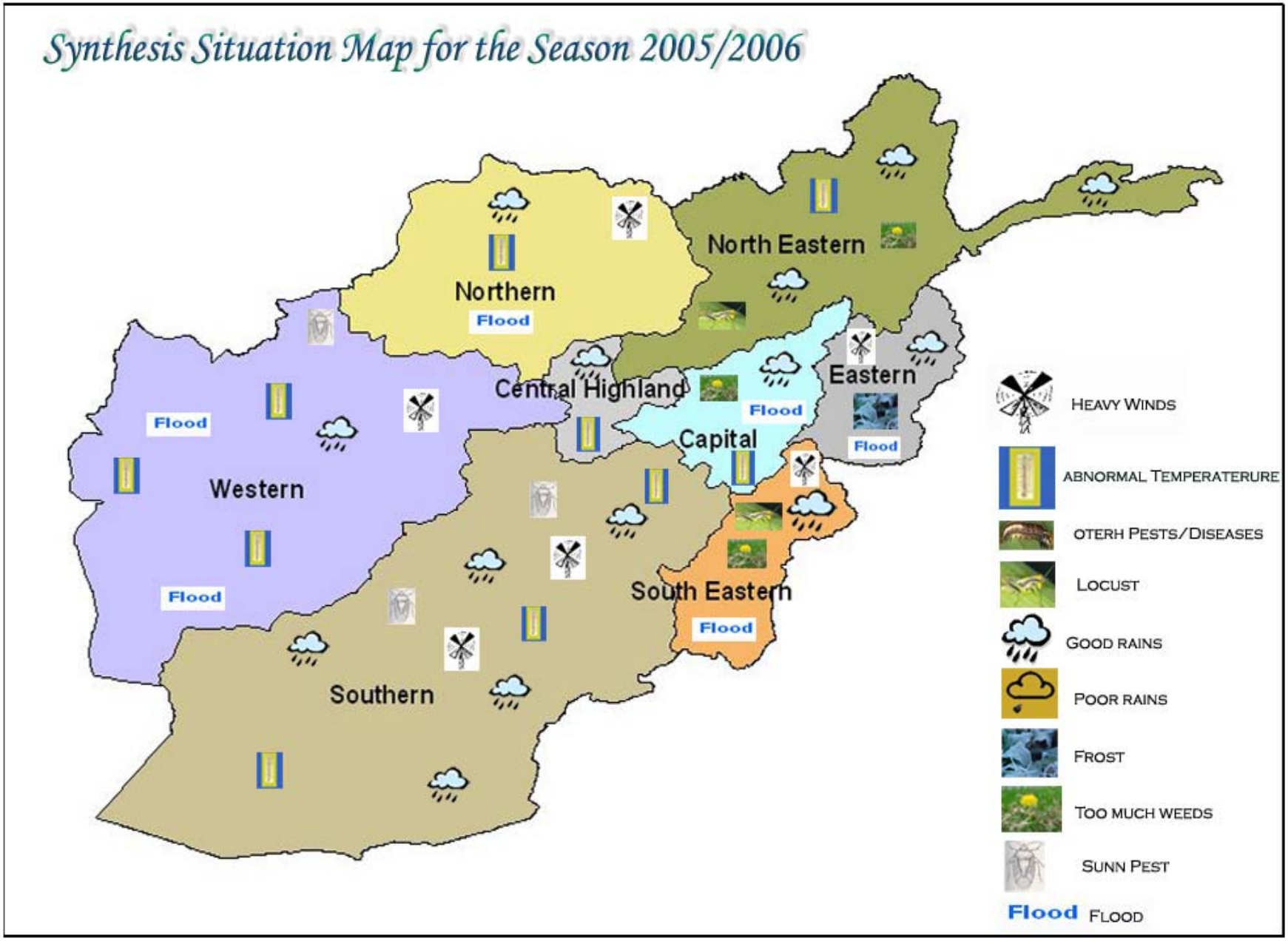

Synthesis Situation Map for the Season 2005/2006
Northern
Flood
North Eastern
Central Highland
Flood
Eastern
Flood
Capital
Flood
Western
Flood
Flood
South Eastern
Flood
Southern
HEAVY WINDS
ABNORMAL TEMPERATERURE
OTERH PESTS/DISEASES
LOCUST
GOOD RAINS
POOR RAINS
FROST
TOO MUCH WEEDS
SUNN PEST
Flood FLOOD

Figure (1)

General Consideration on Rainfall pattern (2005 – 2006)

Normally, in Afghanistan the rainfall season starts from September and continues up to August. For the MA&I / USGS Agromet Project, the starting of the rainfall season is based on a 10 mm threshold. This means the first rain of more than10 mm is considered a start of the rainfall season .

Based on this approach, **rainfall started** in the Eastern and Capital Regions in the 2nd dekad (10 mm) of September 2005 and **rainfall ended** in the 2nd dekad of August 2006 in the Capital and Southeastern Regions.

The season started with near normal precipitation throughout the country which lead farmers to be optimistic about the season. They cultivated large quantities of rain fed and irrigated wheat and vegetables and spent considerable resources on their orchards and other related agricultural activities.

Unfortunately, the country had experienced a severe dry spell at the middle of the season. The irrigated and rain fed wheat was at the critical and sensitive phonological stage when the rainfall fell significantly below normal.

This caused damage to more than 80 percent of rainfed wheat and 10 to 15 percent of the irrigated wheat. In addition, the dry spell, pests, diseases and other harmful adverse factors caused further damage to the agriculture sector in the country. The rainfall situation in the past season was as follows:

Comparison of rainfall data for the season (2005 – 2006) from September 2005 up to July 2006 **chart (1)** shows that generally the rainfall as forecasted early on in the season was less compared to last season (2004 – 2005) and to the long term average.

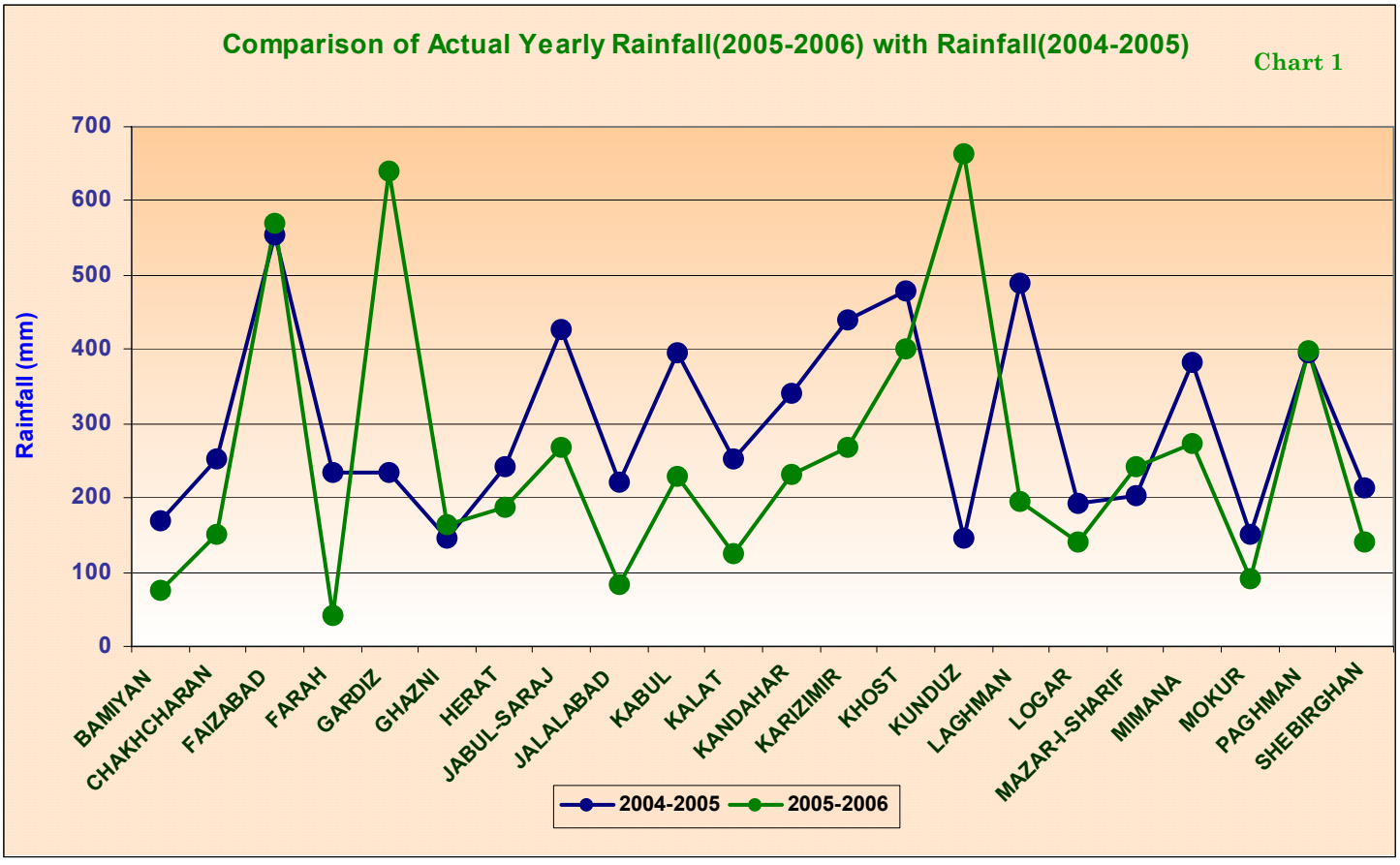
Although the rainfall distribution was variable in different regions, most of the rainfall occurred in the Northeastern Regions ranged from normal to near normal.

The Southern Regions, Southwestern Regions, Western, Central Highlands and some provinces in the North of Afghanistan experienced less than normal rainfall during the season (2005 – 2006). However, late in the season the Southeastern regions experienced good rainfall but it did not benefit agriculture and also could not cover the shortage of precipitation.

Dry Spell:

The country experienced a severe dry spell during the middle of the rainfall season (2005 -2006), and the dry spell continued up to the end of the rainfall season in most parts of the country.

The Southern Regions, Western, Central Highlands and some provinces in the Northern Regions experienced severe dry spells. Below normal precipitation during the rainfall season (2005 – 2006) resulted in below normal water levels in the mentioned regions, and there was a big difference in water supply and demand in which the demand was higher than water supply in most parts of the country during different crop stages. Water supply was lower than water demand and this problem caused a shortage of irrigation water for agricultural fields and badly affected crops and other agricultural fields contributing to the wheat deficit in the country.



Characteristic of Rainfall season

The rainfall season (2005 – 2006) started in the capital regions and eastern regions at the 2nd dekad of September 2005, and rainfall ended in the 3rd dekad of August 2006 in the Eastern and Southeastern regions. The start and end of rainfall season in different regions is as follows:

In the capital region, rainfall started from1-10 of September 2005 and rainfall ended at the end of July 2006. In the Central Highlands, rainfall started at the middle of November 2005 and ended in the last half of May 2006; in the Eastern region rainfall started at the 2nd dekad of September 2005 and ended at the 2nd dekad of July 2006; and in the Northeastern region rainfall started at the 2nd dekad of October 2005 and ended at the 1st dekad of June 2006.

In the Northwest region, rainfall started at the 1st dekad of November 2005 and ended at the 1st dekad of May 2006; in the Southern region rainfall started at the 1st dekad of November 2005and ended at the 1st dekad of July 2006; in the Southeastern region rainfall started at the 2nd dekad of September 2005 and ended at the 3rd dekad of August 2006; and in the Western region rainfall started at the 1st dekad of November 2005 and ended at the 1st dekad of April 2006.

However in some regions such as the Eastern and Southeastern regions rainfall stated in the first half of September 2005, but it was not sufficient and the rainfall was less than 10 mm threshold.

The length of rainfall season recorded 17 dekads for the Capital region, 19 dekads for the Central Highlands, 22 dekads for the Eastern region, 19 dekads for the Northeast region, 17 dekads for the Northern region, 21 dekads the Western region for the Southern region, 23 dekads for the Southeastern region, and 12 dekads for the Western region.

Rainfall Season Chrictristic :10 mm Threshhold

Afghanistan season 2005 - 2006

No	Name of Stations	Starting Dekad	Ending Dekad	Rainfall season Length/ dekad
		Capital Region		
1	Badam bagh	3rd Nov	3rd Apr	15
2	Chack	2nd Nov	3rd Mar	12
3	Charikar	3rd Nov	1st Apr	13
4	Darulaman	1st Nov	1st Apr	12
5	Panjshir	2nd Jan	1st Apr	11
6	Gul Khana	3rd Nov	1st Apr	17
7	Jabulsaraj	1st Jan	1st Apr	16
8	Jaghatoo	1st Nov	3rd July	17
9	kabul	1st Jan	1st Apr	17
10	Kapisa Agri	3rd Nov	1st Apr	16
11	Kariz Mir	3rd Nov	1st Apr	15
12	Logar	2nd Jan	1st Apr	14

Characteristic of Rainfall season:

Rainfall Season Chrictristic :10 mm Threshhold

Afghanistan season 2005 - 2006

No	Name of Stations	Starting Dekad	Ending Dekad	Rainfall season Length/ dekad
Capital Region				
13	Paghman	2nd Nov	1st Apr	14
14	Qargha	1st Nov	1st Apr	13
15	Sarobi	2nd Sep	3rd Mar	13
16	Seya Gerd	3rd Jan	1st Apr	13
Central Highlands				
17	Bamyan		1st Apr	16
18	Bamyan ARD	3rd Nov	1st Apr	12
19	Panjab	2nd Nov	3rd May	14
20	Yakawlang	1st Nov	1st Apr	19
East				
21	Agam	1st Jan	1st Apr	12
22	Asmar	2nd Sep	1st Agu	22
23	Farm Jadeed	1nd Jan	3rd Apr	9
24	Ghazi Abad	1st Jan	1st Apr	11
25	Jalalabad	1st Jan	3rd March	7
26	Laghman	1st Jan	1st Apr	18
27	Mehtarlam	1st Jan	1st Apr	17
28	Sheshambagh	2nd Jan	1st Apr	13
Northeast				
29	Chardara	1st Nov	3rd Apr	16
30	Aaqtepa	1st Nov	1st Apr	11
31	Baghlan	3nd Dec	1st Apr	18
32	Baharak	3rd Jan	1st Jun	7
33	Faizabad	1st Nov	2nd May	19
34	Imam Sahib	1st Nov	1st Apr	10
35	Kunduz ARF	1st Nov	3rd Apr	10
36	Taluqan	1st Nov	1st Apr	13
37	Aibak	1st Nov	1st Apr	13

Rainfall Season Chrictristic :10 mm Threshhold

Afghanistan season 2005 - 2006

No	Name of Stations	Starting Dekad	Ending Dekad	Rainfall season Length/ dekad
		North		
38	Darzab	3rd Dec	2nd Feb	12
39	Jawzjan ARD	3rd Dec	1st Apr	17
40	Kolor or khuram	1st Nov	1st May	7
41	Maimana	1st Nov	1st Apr	11
42	Mazar ARD	1st Nov	1st Apr	14
43	Mazarisharif	1st Nov	1st Apr	14
44	Sarbagh	1st Nov	1st Apr	10
45	Sari Pul	1st Nov	1st Apr	14
46	Sheberghan	3rd Dec	1st Apr	15
47	Takhta Pul	1st Nov	1st Apr	14
		South		
48	Greshk	2nd Jan	2nd Feb	5
49	Kandahar	2nd Jan	1st Apr	11
50	Lashkargah	2nd Jan	2nd Feb	5
51	Nad Ali	2nd Jan	2nd Feb	5
52	Nawa Gorgin	2nd Jan	2nd Feb	5
53	Uruzgan ARD	1st Nov	2nd Apr	9
54	Zabul	2nd Jan	1st Apr	10
55	Zaranj	2nd Jan		4
56	Gardiz	1st Nov	1st July	21
57	Ghazni Met	1st Mar	1st July	16
58	Sarday	2nd Feb	3rd July	11
		Southeast		
59	Khost	2nd Sep	3rd Aug	23
60	Moqur	2nd Jan	3rd July	7
61	Rohani Baba	2nd Feb	3rd Aug	13
62	Sharana	1st Jan	2nd Apr	12
63	Tera Forestry	1st Nov	3rd July	16
		West		
64	Cheghcharan	1st Nov	1st Apr	13
65	Farah	2nd Jan	2nd Mar	3
66	Hirat	1st Nov	1st Apr	11
67	Moqur Badghis	1st Nov	2nd Mar	5
68	Qala-e-naw	1st Nov	3rd Feb	11
69	Shindand	2nd Nov	2nd Mar	12
70	Zenda jan	1st Nov	2nd Mar	8

Distribution of Rainfall (2005-2006)

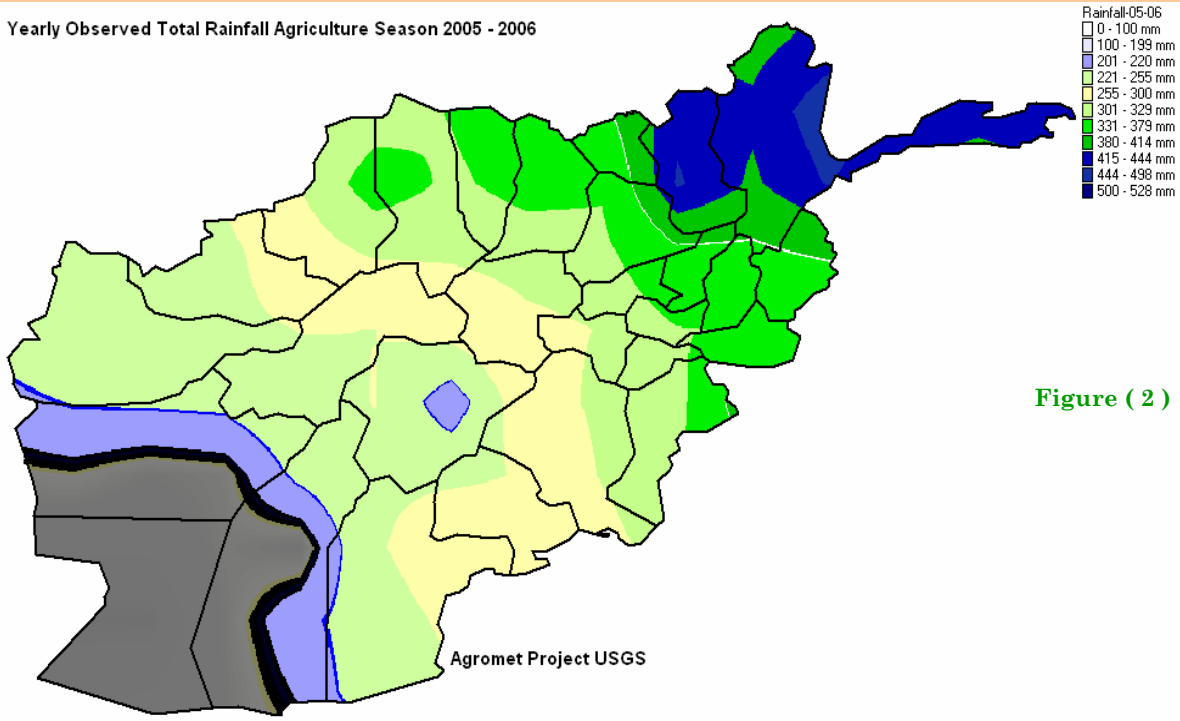


Figure (2)

Figure(2) shows, the rain fall was distributed regularly from Northeast to Southern region across the country. The maximum amount of rainfall has been recorded in the Northeastern region, some parts of the Northern region and the Eastern region. The Southern and Western regions experienced less amounts of rainfall during the 2005-2006 growing season.

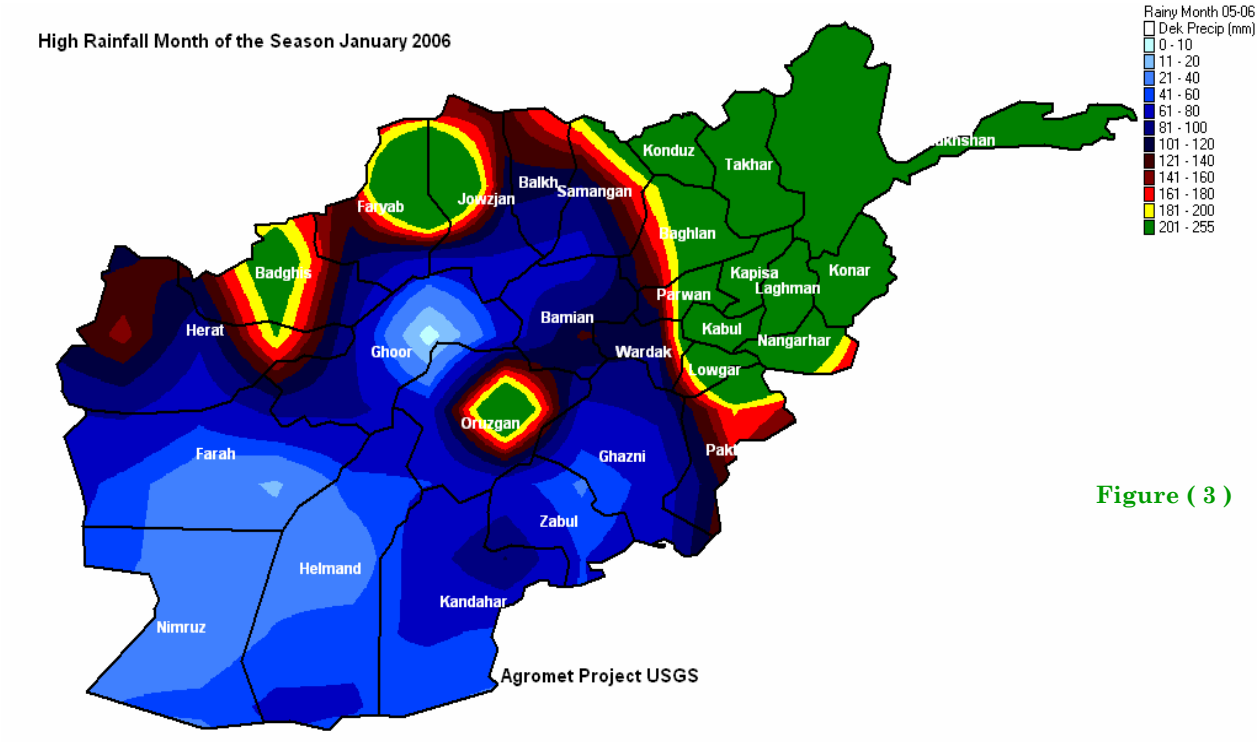


Figure (3)

Figure 3 shows the maximum rainfall recorded in January during the 2005-2006 season across the country. Figure 3 shows the Northeastern region, Eastern and Capital and some parts of the Northern region experienced maximum rainfall in the month of January during the 2005-2006 season.

Distribution of Rainfall (2005-2006)

The month of October 2005 was very dry month during the 05-06 rainfall season across the country (**Figure 4**). Except for some parts of the Northeastern region and some parts of the Eastern region which experienced less amounts of rainfall during the month of October 2005, the remaining regions experienced a very dry spell in October during the rainfall season (2005 – 2006).

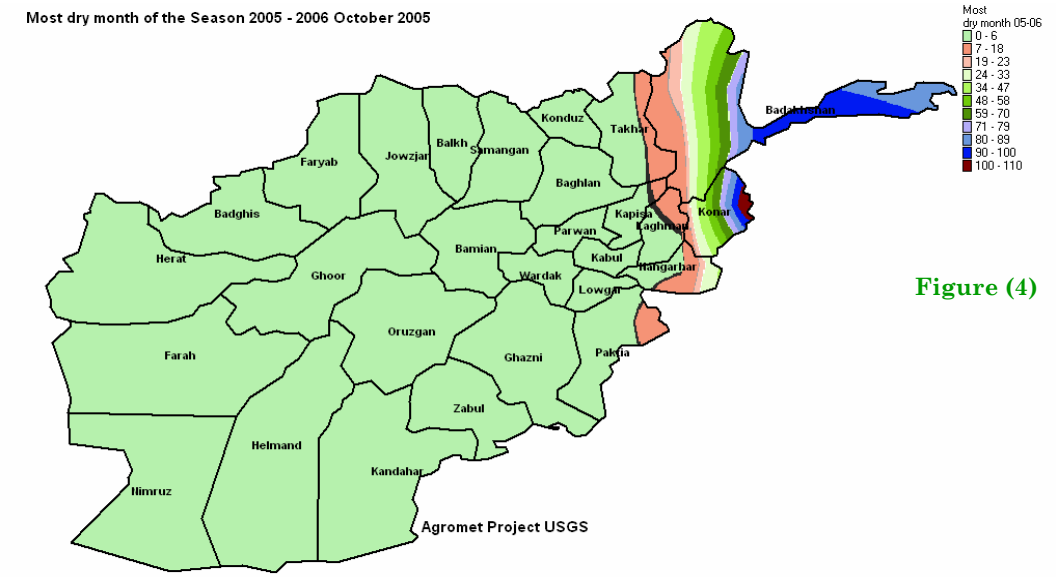


Figure (4)

Rainy Days:

During the rainfall season (2005 – 2006), the country experienced less rainy days, except for the month of January and February most parts of the country experienced above long term average rainy days which departure value from long term average between 1 up to 11 days in different stations in the country. For the rest of the 2005-2006 rainfall season, the country experienced bellow long term average rainy days with rain days departure from long term average was between – 1 up to – 10 days.

The maximum rainy days departure value from long term average (1958 – 1985) has been recorded 11 days during the month of January in Faizabad. **Figure (5)** shows yearly rainy days for the rainfall season (2005-2006) across the country, as shown in the Figure, the Northeastern region, Capital, Eastern region, Southeastern, some parts of Central Highlands, and some parts of the Northern region experienced more rainy days than other regions in the country.

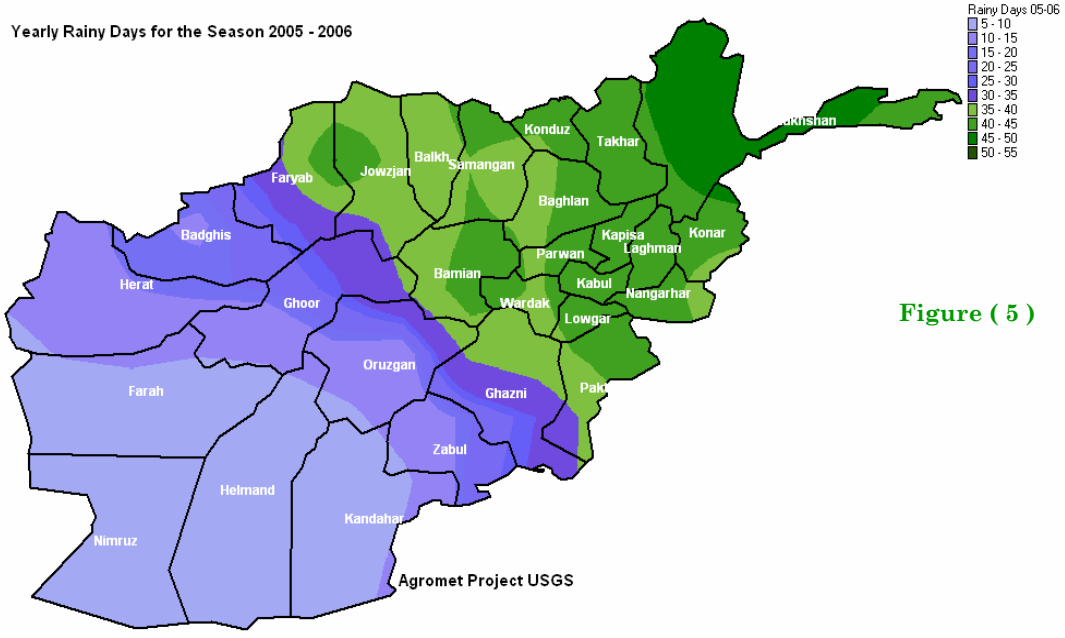


Figure (5)

Monthly Rainfall: Analysis of Recorded Rainfall Value by Region

Capital Region (Badam Bagh, Chack, Charikar, Darulaman, Panjshir, Gul Khana, Jabulsaraj, Jaghatoo, Kabul, Kapisa Agri, Kariz Mir, Logar, Paghman, Qargha, Sarobi, Seygerd).

2005 – 2006 average : 237 mm

This region experienced significant rainfall during the rainfall season (2005 – 2006) with most of the rainfall occurring in the months of January, February, March and April. In this region the Maximum value (more than 15 mm) of rainfall by dekad in (mm) is as follow:

Stations	2005				2006							
	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug
Badambagh					54 mm 2nd dekad	19.2 mm 2nd dekad				25 mm 3rd dekad		
Chack					24 mm 2nd dekad	17 mm 1st dekad	16 mm 1st dekad					
Chrikar					35 mm 3rd dekad	33 mm 3 rd dekad	53 mm 3rd dekad	26mm 1st dekad				
Darulaman					17.2mm 1st dekad	20mm 3rd dekad	18 mm 3rd dekad					
Panjshir					33mm 2nd dekad	44.3 mm 3rd dekad	24.6 mm 3rd dekad	17 mm 1st dekad				
Gul Khana					57 mm 2nd dekad		32 mm 3rd dekad	16 mm 1st dekad				
Jabulsaraj					30 mm 2nd dekad	53 mm 3rd dekad	39mm 2nd dekad	25 mm 1st dekad				
Jaghatoo			44 mm 3nd dekad		29 mm 2nd dekad	86 mm 3rd dekad	52 mm 3rd dekad	50 mm 2 nd dekad	18 mm 1st dekad		15 mm 3rddekad	
Kabul					50 mm 2nd dekad	16 mm 2nd dekad	19 mm 2nd dekad					
Kapisa					60 mm 2nd dekad	39 mm 3rd dekad	39 mm 3rd dekaf	31 mm 1st dekad				
Kariz Mir					37mm 3rd dekad	21 mm 2nd dekad	56 mm 3rd dekad	32 mm 1st dekad				
Logar					23 mm 2nd dekad	29 mm 2nd dekad	15 mm 1st dekad					
Paghman			32 mm 3rd dekad		51 mm 2nd dekad	44 mm 2nd dekad	39 mm 3rd dekad	47 mm 1st dekad				
Qargha					40 mm 2nd dekad		30 mm 2nd dekad	18 mm 1st dekad				
Sarobi					34 mm 2nd dekad	18 mm 3rd dekad	54 mm 3rd dekad					

Monthly Rainfall: Analysis of Recorded Rainfall Value by Region

Central Highlands (Bamyan, Bamyan ARD, Panhab, Yakawlang)

2005 – 2006 average: 127 mm

The Central Highlands region experienced less rainfall in the rainfall season (2005 – 2006), with the maximum rainfall recorded by dekad in (mm) is as follows:

Stations	2005				2006							
	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug
Bamyan								16 mm 1st dekad				
Bamyan ARD			15 mm 3rd dekad		18 mm 3rd dekad		18 mm 3rd dekad	16 mm 1st dekad				
Panjab			16 mm 3rd dekad		34 mm 3rd dekad			35 mm 2nd dekad				
Yakawlang					27 mm 3rd dekad	20 mm 2nd dekad		18 mm 1st dekad				

East Region (Agam, Asmar, Farm Jadeed, Ghazi Abad, Jalalabad, Laghman, Mehtarlam)

2005 – 2006 average: 169.2 mm

This region did not experienced good rainfall during the rainfall season (2005 – 2006), the maximum rainfall which has been recorded by dekad in (mm) is as follow:

Stations	2005				2006							
	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug
Agam					20 mm 2nd dekad		19 mm 3rd dekad	34 mm 1st dekad				
FormJaded					27 mm 2nd dkead		28 mm 3rd dekad					
Ghazi Abad					18 mm 1st dekad	25 mm 3rd dekad	29 mm 2nd dekad	15 mm 1st dekad				
Jalabad					18 mm 2nd dekad		16 mm 3rd dekad					
Laghman					28 mm 2nd dekad	23 mm 2nd dekad	64 mm 3rd dekad	16 mm 1st dekad				
Mehtarlam					28 mm 2nd dekad	25 mm 3rd dekad	56 mm 3rd dekad	16 mm 1st dekad				
Asmar	22mm 2nd Dekad	24mm 1st Dekad			52mm 2nd deakd	21mm 2nd dekad	40mm 3rd dekad	26mm 1st dekad			33mm 2nd dekad	25mm 1st deakd

Monthly Rainfall: Analysis of Recorded Rainfall Value by Region

Northeast Region (Chardara, Aaqtepa, Baghlan, Baharak, Faizabad, Imam Sahib, Kunduz ARF, Taluqan, Aibak)

2005 – 2006 average : 404 mm

The Northeast region experienced significant rainfall during the rainfall season (2005 – 2006) across the country with the most rainfall occurring in this region. The maximum value of rainfall recorded in (mm) in different stations by dekad is listed below:

Stations	2005				2006							
	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug
Chardara					38 mm 2nd dekad	78 mm 2nd dekad	97 mm 3rd dekad	133mm 1st dekad				
Aqtepa					21 mm 2nd dekad	76 mm 2nd dekad	40 mm 2nd dekad	117 mm 1st dekad				
Baghlan				25 mm 3rd dekad	20 mm 3rd dekad	24 mm 2nd dekad						
Baharak						195mm 2nd dekad	80 mm 3rd dekad	105 mm 3rd dekad		70 mm 1st dekad		
Faizabad		17 mm 2nd dekad	22 mm 1st dekad	23 mm 1st dekad	101 mm 2nd dekad	115mm 2nd dekad	51 mm 2nd dekad	16 mm 2nd dekad				
Imamsahib			22mm 1st dekad		31 mm 3rd dekad	82 mm 2 nd dekad	71 mm 2nd dekad					
Kunduz					28 mm 3nd dekad	106mm 2nd dekad	97 mm 3rd dekad	132mm 1st dekad				
Taluqan			23 mm 1st dekad	20 mm 3rd dekad	36 mm 2nd dekad	34 mm 2nd dekad	35 mm 1st dekad	36 mm 1st dekad				
Aibak			16 mm 1st dekad		21 mm 2nd dekad	55 mm 2nd dekad	24 mm 3rd dekad	16 mm 1st dekad				

Monthly Rainfall: Analysis of Recorded Rainfall Value by Region

North Region (Darzab, Jawzjan ARD, Koloror khuram, Maimana, Mazar ARD , Mazarisharif, Sarbagh, Sari Pul, Sheberghan, Takhta Pul)

2005 – 2006 average : 219.4 mm

In this region significant rainfall occurred in the months of January, February, March and April during the rainfall season (2005 – 2006) , and for the remaining months this region experienced a dry spell. The maximum rainfall has been recorded in (mm) in this region shows below by dakad:

Stations	2005				2006							
	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug
Darwaz				19mm 3rd dekad	15 mm 2nd dekad	20mm 2nd dekad						
Jawzjan ARD				15 mm 3rd dekad	33 mm 3rd dekad	17 mm 2nd dekad		17 mm 1st dekad				
Koloror Khoram			75 mm 1st dekad	84mm 1st dekad		123 mm 2nd dekad			38 mm 1st dekad			
Maimana			23mm 1st dekad	32 mm 3rd dekad	23 mm 2nd dekad	77 mm 2nd dekad	28 mm 3rd dekad	49 mm 1st dekad				
Mazar ARD				17 mm 3rd dekad	69 mm 3rd dekad	22 mm 2nd dekad	28 mm 1st dekad					
Mazar –e – Sharif				17 mm 3rd dekad	115 mm 3rd dekad	22 mm 2nd dekad						
Sarbagh				36 mm 1st dekad		15 mm 1st dekad	26 mm 1st dekad					
Sari Pul			36 mm 3rd dekad		52 mm 3rd dekad	29 mm 1st dekad						
Sheberghan				17 mm 3rd dekad	33 mm 3rd dekad	17 mm 2nd dekad		17 mm 1st dekad				
Takhtapul				17 mm 3rd dekad	101mm 3rd dekad	19 mm 2nd dekad	30 mm 1st dekad					

Monthly Rainfall: Analysis of Recorded Rainfall Value by Region

South region (Greshk, Kandahar, Lashkargah, Nad Ali. Nawa Gorgin, Uruzgan ARD, Zabul, Zaranj, Gardiz, Ghazni Met, Sarday)

2005 – 2006 average : 174.4 mm

This region did not experienced good rainfall during the rainfall season (2005 – 2006), and most part of this region experienced dry spell except Gardiz and Gazni which significant rainfall occurred in that provinces. The maximum value of rainfall in (mm) by dekad in this region is as follow:

Stations	2005				2006							
	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug
Greshk					25 mm 2nd dekad	26 mm 2nd dekad						
Kandahar					40 mm 2nd dekad	53 mm 2nd dekad	50 mm 2nd dekad	30 mm 1st dekad				
Lashkargah					24 mm 2nd dekad	22 mm 2nd dekad						
Nad Ali					22mm 2nd dekad	24 mm 2nd dekad						
Nawa Gorgin					25 mm 2nd dekad	24 mm 2nd dekad						
Urazgan ARD			17 mm 1st dekad		38 mm 2nd dekad	77 mm 3rd dekad						
Zabul					35 mm 2nd dekad	20 mm 3rd dekad	21 mm 2nd dekad					
Zaranj					18 mm 2nd dekad							
Gardiz			17mm 1st dekad		25 mm 2nd dekad	37 mm 1st dekad	96 mm 3rd dekad		48 mm 2nd dekad	81mm 1st dekad	112 mm 1st dekad	
Ghazni							41 mm 3rd dekad	15 mm 3rd dekad	15 mm 2nd dekad			
Sardy						26 mm 2nd dekad	15 mm 2nd dekad	46 mm 3rd dekad				

Monthly Rainfall: Analysis of Recorded Rainfall Value by Region

Southeast region (Khost, Moqur, Rohani Baba, Tera Forestry, Sharana)

2005 – 2006 average : 218.2 mm

The Southeastern region experienced significant rainfall during the rainfall season (2005 – 2006) specially in the monsoon activity period and much amount of rainfall occurred in this region which caused heavy floods in some

Stations	2005				2006							
	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug
Khost					32 mm 2nd dekad	18 mm 2nd dekad	58 mm 2nd dekad			51 mm 3rd dekad		65 mm 2nd dekad
Muqur					23mm 2nd dekad	27 mm 2nd dekad					20 mm 3rd dekad	
Rohani Baba						21 mm 3rd dekad						
Sharana					49 mm 2nd dekad	19 mm 2nd dekad	15 mm 1st dekad	15 mm 2nd dekad				
Tera Forestry			17 mm 1st dekad		49 mm 2nd dekad	58mm 2nd dekad	17 mm 2nd dekad	36 mm 1st dekad			16 mm 3rd dekad	

Western Region (Cheghcharan, Farah, Hirat, Moqur Badghis, Qala-e-naw, Shindand, Zenda jan).

2005 – 2006 aveargе: 133.9 mm

In this region less rainfall was recorded during the rainfall season (2005 – 2006). This region experinced a severe dry spell which resulted in low irrigatin and low water supply. The maximum rainfall recorded in this region in (mm) by dekad is as follow:

Stations	2005				2006							
	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug
Cheghcheran			18 mm 1st dekad		16 mm 3rd dekad	26 mm 2nd dekad	20 mm 2rd dekad	29 mm 1st dekad				
Farah					17 mm 2nd dekad							
Herat			17 mm 1st dekad		59 mm 3rd dekad	20 mm 2nd dekad		19 mm 1st dekad				
Muqur Badghis					17 mm 2nd dekad		20 mm 2nd dekad					
Qala – e – Naw					60 mm 3nd dekad							
Shindand			15 mm 1st dekad		19 mm 2nd dekad							

Snow Days 2005-2006:

The snow pack was below normal during the 05-06 growing season across the country. However, the snow extent was above long term average in the month of January 2005 (Figure 7 and 8). Afghanistan experienced bellow normal snow days with snowfall started in January and continued up to March 2006 in some limited areas such as Paghman, Panjab, Yakawlang and Cheghcheran .The snowfall recorded data table (2) shows a decrease of snow days during the 05-06 season in Afghanistan. The snow days by region has been recorded as bellow:

Snow Days of the Season 2005 - 2006 Table (2)

Name	Region	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Total Snow Days
Badam bagh	Capital	0	0	0	0	6	0	0	0	0	0	0	0	6
Chack		0	0	0	0	2	0	0	0	0	0	0	0	2
Charikar		0	0	0	0	3	0	0	0	0	0	0	0	3
Dara Panjsheer		0	0	0	0	9	0	1	0	0	0	0	0	10
Darulaman		0	0	0	0	7	0	0	0	0	0	0	0	7
Dashtak		0	0	0	0	10	0	0	0	0	0	0	0	10
Gul Khana		0	0	0	0	7	0	0	0	0	0	0	0	7
Jabulsaraj		0	0	0	0	6	0	0	0	0	0	0	0	6
Jaghatoo		0	0	0	0	3	3	0	0	0	0	0	0	6
kabul		0	0	0	0	9	0	0	0	0	0	0	0	9
Kapisa Agri		0	0	0	0	5	0	0	0	0	0	0	0	5
Kariz Mir		0	0	0	0	6	0	0	0	0	0	0	0	6
Paghman		0	0	0	0	10	0	1	0	0	0	0	0	11
Qargha		0	0	0	0	7	0	0	0	0	0	0	0	7
Bamyan	Central Highlands	0	0	0	0	3	1	0	0	0	0	0	0	4
Bamyan ARD		0	0	0	0	3	1	0	0	0	0	0	0	4
Panjab		0	0	0	0	12	8	2	0	0	0	0	0	22
Shebar		0	0	0	0	10	1	0	0	0	0	0	0	11
Yakawlang		0	0	0	0	6	3	3	0	0	0	0	0	12
Chardara	Norht east	0	0	0	0	8	0	0	0	0	0	0	0	8
Aaqtepa		0	0	0	0	4	0	0	0	0	0	0	0	4
Baghlan		0	0	0	1	6	1	0	0	0	0	0	0	8
Baharak		0	0	0	0	5	0	0	0	0	0	0	0	5
Faizabad		0	0	0	0	8	0	0	0	0	0	0	0	8
Imam Sahib		0	0	0	0	5	0	0	0	0	0	0	0	5
Kunduz ARF		0	0	0	0	6	0	0	0	0	0	0	0	6
Taluqan		0	0	0	0	6	0	0	0	0	0	0	0	6
Urgo		0	0	0	0	4	2	1	1	0	0	0	0	8
Aibak	North west	0	0	0	0	4	1	0	0	0	0	0	0	5
Dara-e-Soof		0	0	0	0	5	0	0	0	0	0	0	0	5
Darzab		0	0	0	0	4	0	0	0	0	0	0	0	4
Jawzjan ARD		0	0	0	0	8	0	0	0	0	0	0	0	8
Maimana		0	0	0	0	2	0	0	0	0	0	0	0	2
Sarbagh		0	0	0	0	6	2	0	0	0	0	0	0	8
Sari Pul		0	0	0	0	9	1	0	0	0	0	0	0	10
Sohrab		0	0	0	0	15	0	0	0	0	0	0	0	15
Takhta Pul		0	0	0	0	3	0	0	0	0	0	0	0	3
Zabul	South	0	0	0	0	1	0	0	0	0	0	0	0	1
Moqur	South east	0	0	0	0	3	0	0	0	0	0	0	0	3
Rohani Baba		0	0	0	0	3	0	0	0	0	0	0	0	3
Sharana		0	0	0	0	7	0	0	0	0	0	0	0	7
Tera Forestry		0	0	0	0	6	1	0	0	0	0	0	0	7
Cheghcharan	West	0	0	0	0	3	1	2	0	0	0	0	0	6
Moqur Badghis		0	0	0	0	2	0	0	0	0	0	0	0	2
Murghab		0	0	0	0	7	0	0	0	0	0	0	0	7
Qala-e-naw		0	0	0	0	8	1	0	0	0	0	0	0	9
Zenda jan		0	0	0	0	4	0	0	0	0	0	0	0	4

Snowfall 2005-2006:

The snowfall stopped in the middle of the winter 2006 in most parts of the country and did not continue up to the expected time. The snowfall resource areas, or especially mountainous areas, couldn't reserve enough snow due to the shortage of snowfall. Finally we had below normal snowfall during the rainfall season (2005-2006) around the country.

Due to higher than normal temperatures during the Agricultural season (2005-2006) snow melted more rapidly than expected and caused huge damages to the snow resources and resulted in low irrigation and water supply during the agricultural season (2005-2006).

The Maximum snow depth in different regions recorded as bellow:

In the Capital region the maximum snow depth recorded 33 cm in Charikar in 17 January, in the Central Highlands 31cm in Panjab on 30 of January, in the Northeast region 30cm in Baharak on 29 of January, in the Nothern region, 35 cm in Mazarisharf on 28 January, in th Southeast region 45cm in Tera Forestry on 15 January and 30 cm in Murghab on 28 January.

As figure 6 shows in the north east region which is the permanent resources of the snowfall, the snow remained up to early August 2006 such as the snow depths 10 up to 30 cm and some part from 2 up to 10 cm has been recorded

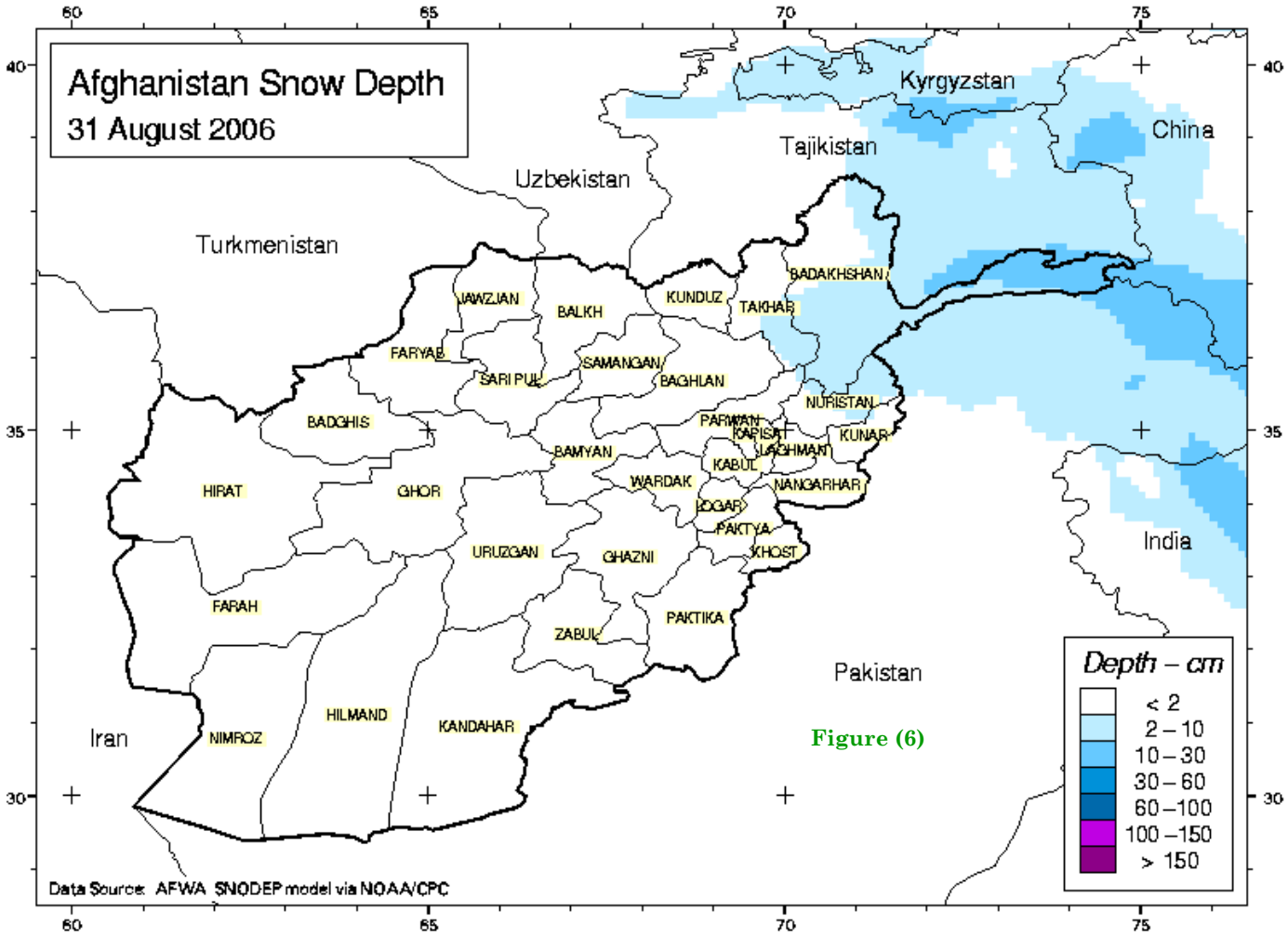
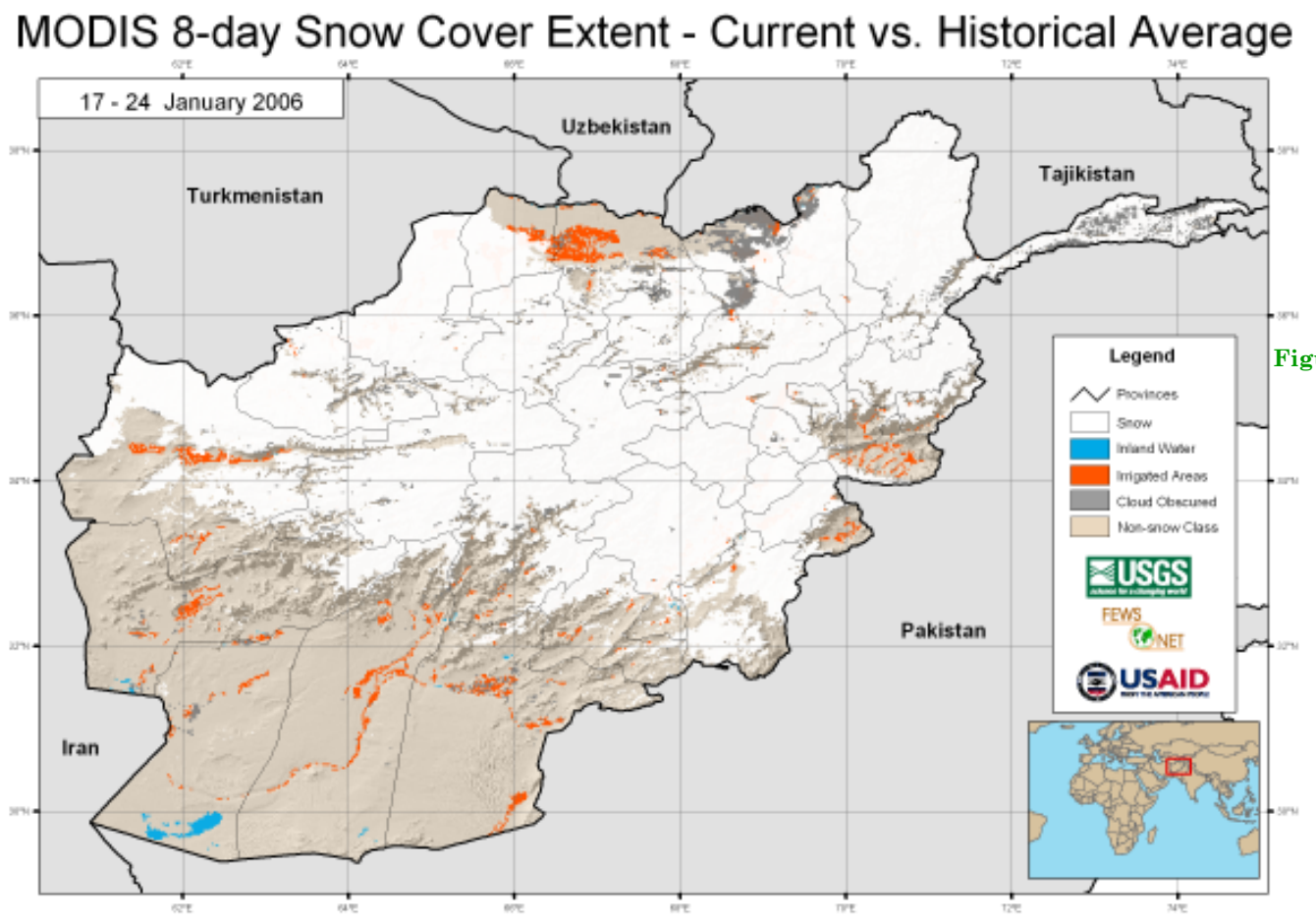


Figure (6)

Snowfall 2005-2006:



Figure(7)

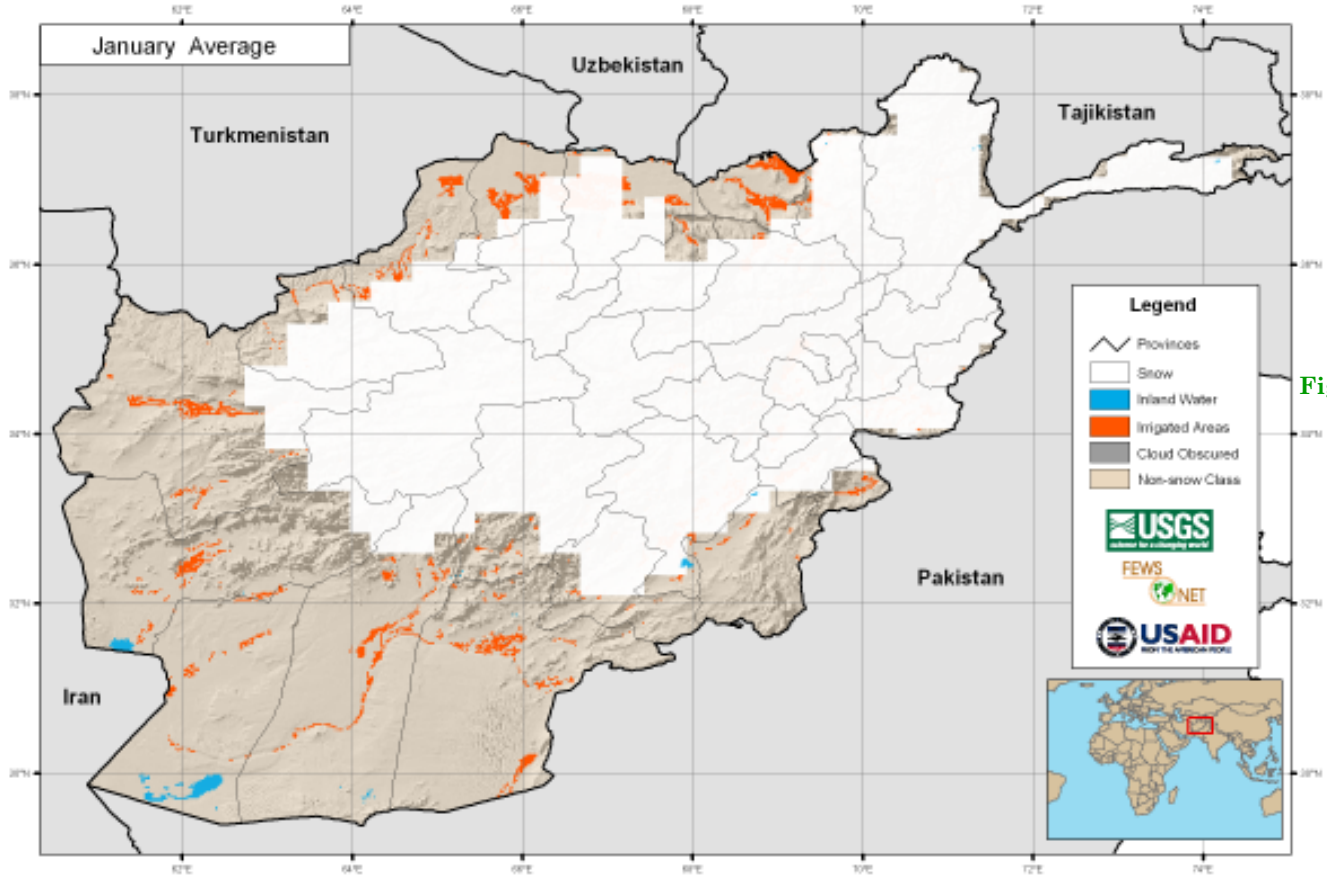


Figure (8)

Data Source: Agromet Network, AMA,FAO, USGS

Temperature:

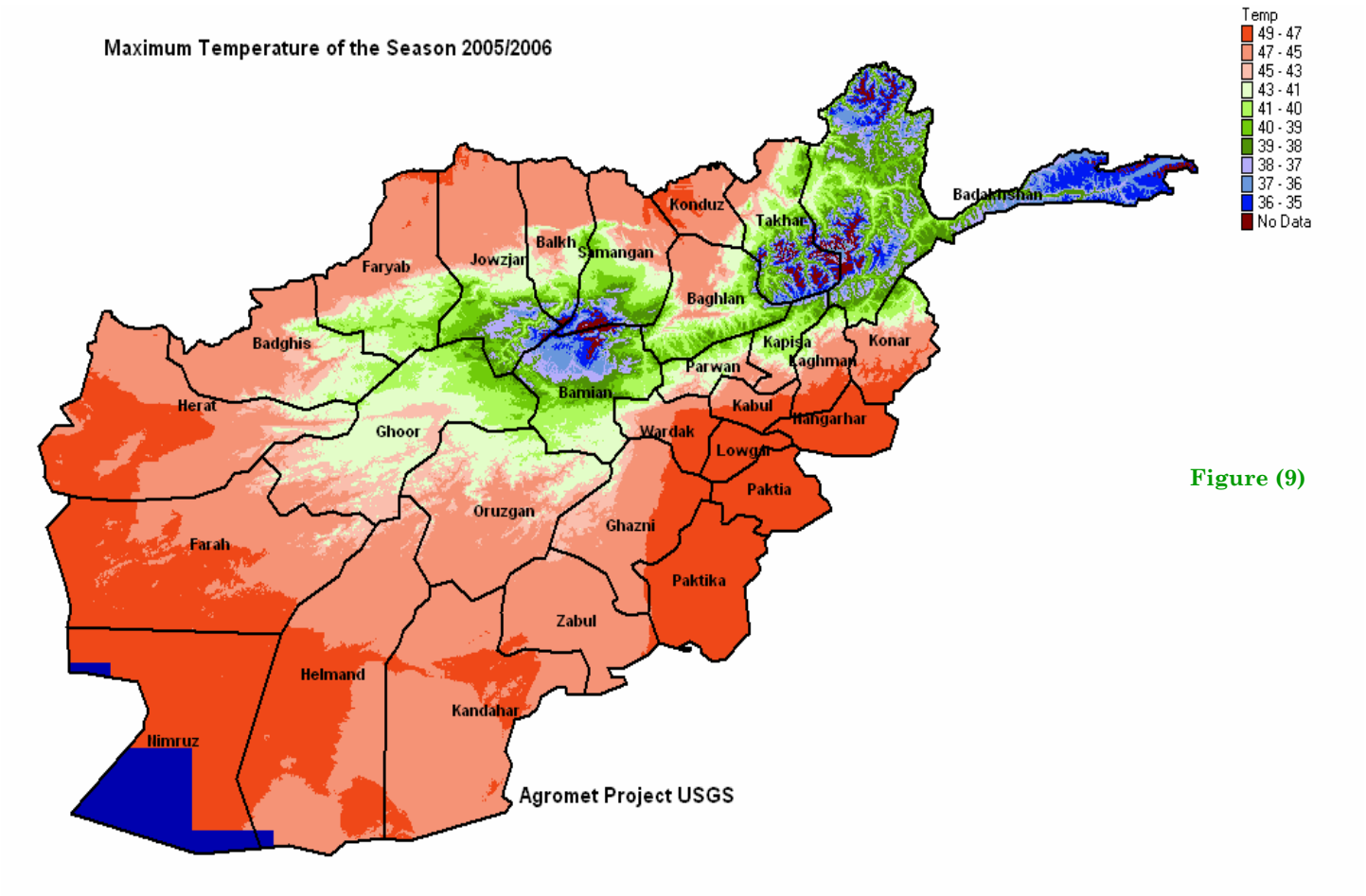


Figure (9)

In general, the 2005-2006 season experienced higher temperature compared to last season and long term average, especially during the month of February and March 2006 which caused a rapid snow melt and significant loss of water through runoff.

Temperature data during the 2005 – 2006 season shows that temperature was distributed variable in different parts of the regions, from September 2005 up to December 2006 in somewhere the temperature lower than long term average and some parts is above long term average (charts 1through 4 refer to Annex), during the month of Jeanery 2006, the temperature was bellow long term average and gradually decreased across the country which cased much amount of precipitation in this month (chart 5).

From February up to July 2006 (charts 6 through11 refer to Annex), gradually the temperature had increase and was above normal.

As **figure(9)** shows the Eastern region, southeastern, some parts of the Capital, most parts of the South and some parts of the Western region experienced high temperature during the season (2005-2006).Above normal temperature from Feb into early March, resulted bellow normal snow extent and depth.

Frost Days:

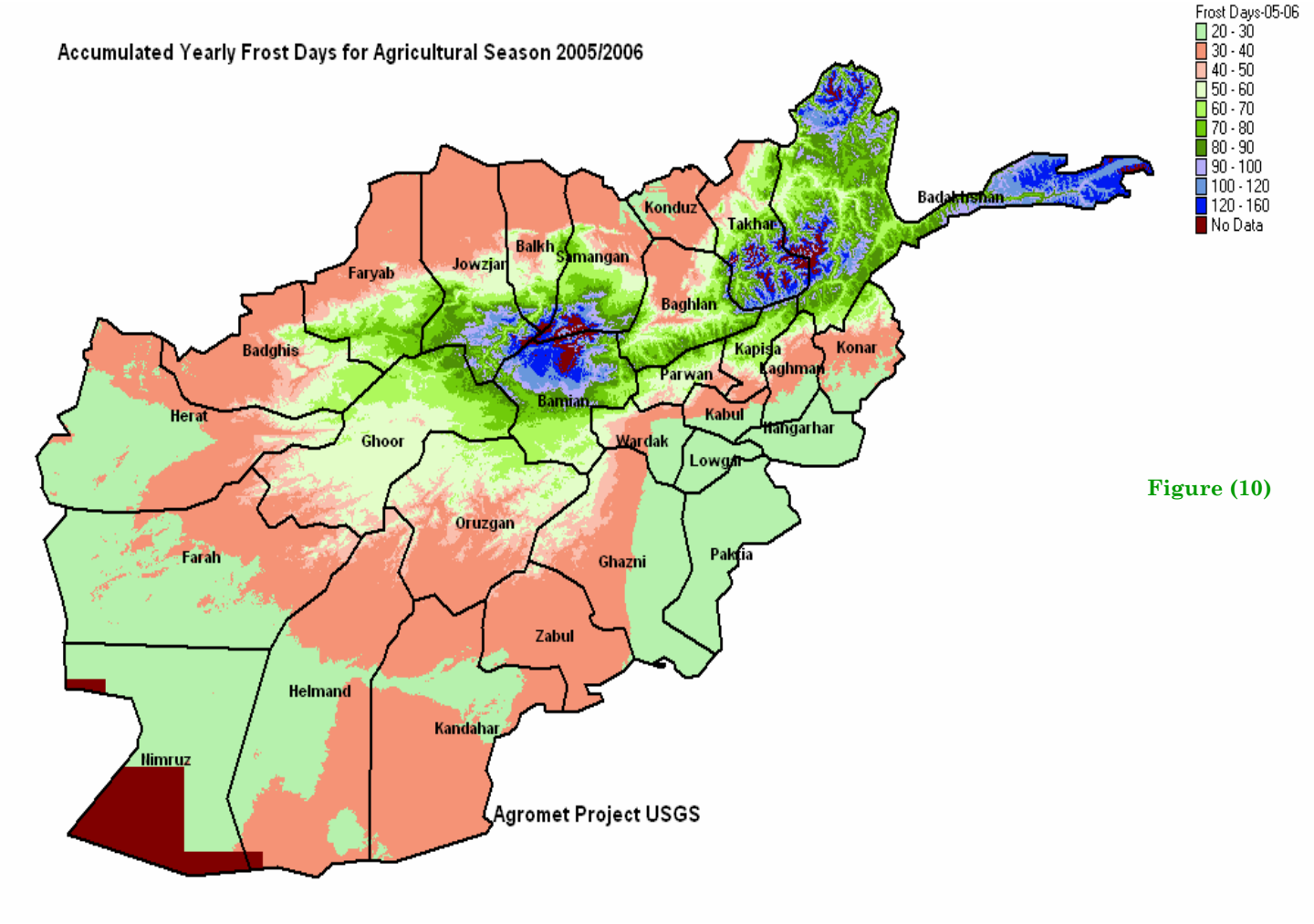


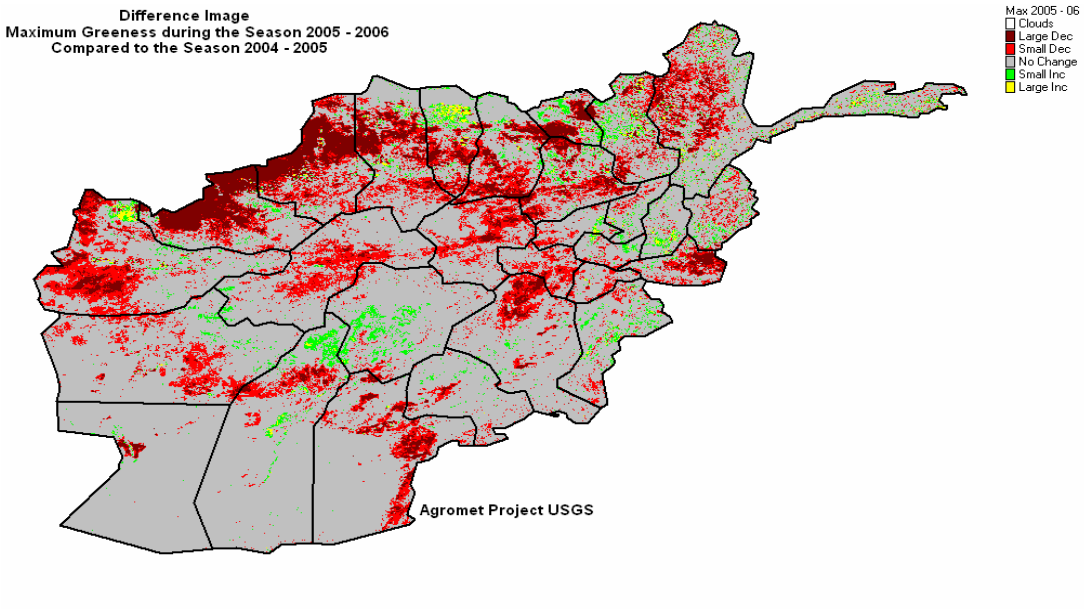
Figure (10)

When the air temperature drops below zero ° C frost occurs. During the 2005-2006 growing season, frost occurred as early as October 2005 in some parts of the country such as Gardez, Logar, Sardy, Gazni, Hirat, Bamayn and Kabul. Genrally frost occurred in November 2005 in most parts of the country and continued up to April 2006 in some parts like Gazni, Gardez, Logar, Bamayn and Kabul.

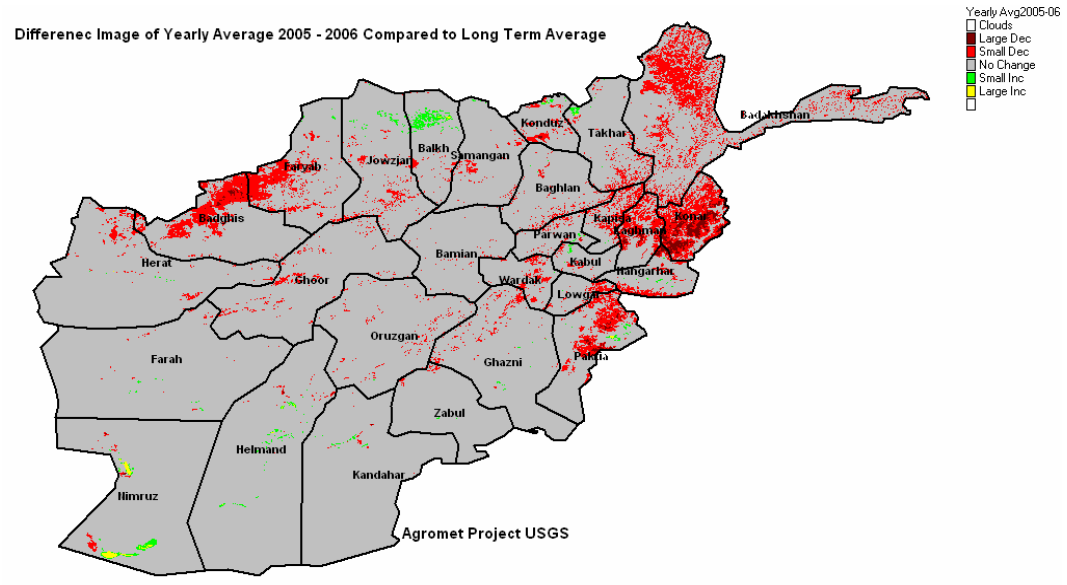
Figure (10) shows the Northeastern region, Hindo Kush mountainous areas, Central High lands and some parts of the Capital region experienced the most frosty days. Bamayn experienced 156 frost days and the minimum frost days was recorded in Jaalabad, five days during the 2005-2006 growing season.

NDVI Agricultural Season 2005-2006

Maximum greenness comparisons of the season (2005-2006) to maximum greenness of the season (2004-2005) **figure (11)** shows a large decrease of NDVI in the Northwestern region particularly in Jawzjan, Faryab and Badghis provinces, small decreases of NDVI occurred in Northeastern region, Eastern, some parts of the Southeastern, Central Highlands, some parts of Western region and a small part of the Southern region during the season (2005-2006) over the 2004-2005 season. Small increase of NDVI value occurred in a very small isolated area in the Northeastern, some parts of the Southeastern region and small part of the Southern region. No change detected in the NDVI value in most parts of the Southern region. The overall trend, a decrease of NDVI value for the 2005-2006 growing season compared to the 2004-2005 season was observed.



Figure(12) Shows a comparison of maximum greenness during the 2005-2006 growing season with the long term average. It shows large increase of greenness in small part of the Northern region and some parts of the Eastern region. Small increase of NDVI observed in most pats of the Northeastern region, Eastern, Southeastern, and some parts of the Southern region during the 2005-2006 season compared to long term average. large decrease in NDVI value occurred in the Northwestern region and small decrease of NDVI value occurred in some parts of the West and the North and small area in the Capital region. There is no change of NDVI value in most parts of the Southern region, Central Highlands and most part of the Western region during the 2005-2006 season compared to the long tern average.



Floods

Severe flash floods occurred during 05-06 season in different regions in the country, which damaged properties, agricultural lands, orchards, infrastructure (roads, dams, shops, bridges) and caused casualties and loss of livestock.

The damages and casualties caused by flooding between April and August 2006 in the various parts of the country are as follows:

Faryab and **Baghlan**:

Homes have been severely damaged due to the occurrences of flash flood and a number of people lost their lives.

According to reports from the agrometeorological network observers and the UNAMA office, areas in Faryab affected

Gurziwan District (Ghal Namak, Dara Jawz, Deh Meran, Ghouldian, Qala Tozi, Takhara, Qala Khowja, Pakhal Soz, Dara zang and Doaba villages).

Damages: 7 people lost their lives, 25 people injured, 187 houses destroyed, 135 houses damaged, 1749 families losted thier lands, 3086 livestock died, 6 mosques damaged, 6 schools destroyed, 71 small dams destroyed, 2 electric power mills destroyed, 21 water mills destroyed, 2 vehicles destroyed.Reports also mentioned that 45 houses have been damaged in Baghlan province by flood and thousands jireb of agrilands destroyed.

In Badakhshan 1 person killed, 113 affected families, 92 shops destroyed, 70 livestock died, 2 bridges destroyed, 2 hotels destroyed.

Reports from Takhar mentioned 93 affected families, 850 livestock killed, 91 jireb Agri lands destroyed, 8 km roads destroyed, 1 bridge destroyed.

In Royab district 70 houses destroyed, 350 jireb agrilands destroyed, 2 km road destroyed, 2 water mail, 4 reservoirs, 500 canals destroyed.

In Ghor 12 person killed, 474 families affected, 1000 fruit trees destroyed, 1200 jireb agrilands destroyed,10small dams destroyed.

Reprt from Kunduz :12 houses destroyed, 2 water mail, 1bridge destroyed.

In Bamyan 21houses destroyed, 42 houses damaged, 19 livestock died, 932 jireb arilands destroyed, 3 km road, 5 reservoirs, 2 small dams and 15 km canal destroyed.

Paktiya: 3 persons killed,10 houses affected, 5850 fruit trees destroyed, 121 livestock died, 190 jireb agri lands dstryed, 216 km sub road destroyed, 6 water mills, 45 small bridges, 21 water canals destroyed

Floods

Parwan province : reports from Sorkhparsa district (Dara Parsa, Dara, Dara Sorkh) sustained 800 jireb agri lands destroyed, 24 houses destroyed, 17 livestock died, 5000 fruit trees destroyed, 1.5 km road destroyed. In Ghorband district, Dara Namak (Talkhak village, Bank chak, Sya kharak, Kohna Dah, Reva, Banganshi) totally 46 jireb Argilands destroyed, 750 water canals, 60 water mail dam destroyed, 18 houses destroyed, 50 m road, 100 sub road destroyed.

Panjshir Province: in Dara district, 4 houses completely destroyed, 100 livestock died, 200 jireb of land damaged, 1.30 meter road damaged, 5 water mail damaged, 50 station of hydro electricity destroyed, 5 bridges damaged, 1000 trees damaged, 10 km sprigs damaged.

Paktika province: flood occurred on 1st and 3rd of August 2006 in Matkhan, Sarouza, wamna, Urgoon Zirok,gumal, Nekha,Gahyan, resulted in 21 persons killed, 6 wounded, 2180 livestock died, 14508 jireb agri lands destroyed, 185 head dams destroyed, 50 canals, 254 houses destroyed, 167 houses damaged, 4325 families affected, 14000 trees destroyed.

In Khost: 20 houses damaged, one mosque destroyed, 2 truck, 1 bridge damaged,1000 jireb agri lands affected.

Nangarhar: in Khogyani, Chapirwagam and Kheewa district totally 12 person died,45 families affected, 107 jireb Ari land damaged. In Sarkani,Nareng, Khaskuner, and Daraenoor, 40 houses damaged,360 jireb agri lands destroyed,100 houses collapsed, 200 tents washed out, 5 houses destroyed.

7 persons killed, 2 injured, 2 missing, 1326 houses completely damaged, 9294 jireb agri lands badly affected, 150 livestock died,5 mosque damaged, 13 drinking wheels, 13 carize, 680 irrigation canals destroyed, and 132 shops clopsed.

Kabul: flood occurred on 7 &12 of August, 2006 in Baraky, Estalif, Dehsabz, and Qarabagh, which totally destroyed 28 tents of Tagab camp, 2 young girls killed, 12 canals damaged, 4 micro hydro powers damaged, 9 km road washed away, 18 footpath bridge damaged, 18 livestock died, 2 water supply gravity system damaged, 43 houses damaged 6 Kariz affected. Flood on 13 August in Farza district resulted in 1500 jarib of agricultural land damaged, 75 animals died, 1000 fruit and non fruit trees washed out,26 water dams washed out. In Kalakan district flood occurred on 10 August and 4 villages affected.

Wardak: flood on 14 August 2006 occurred in capital city of wardak, Nerkh, Jagjatoo, Chak, Julriz, Hesaeawal behsoud distrct and totally damaged 50 houses, 3km road, 6000 fruit &non fruit trees, 45 animal died, 1760 irrigation canals damaged, 12 check dams, 220 hectares of Agri lands, 10 small bridges, 8 nomad's tents were washed out, 300 houses partially damaged, 4800 m water intakes damaged, 8 Karizes damaged , 3800 protection walls damaged.

Kunar: flood occurred between 10 – 13 of June, 2006 and resulted in damaging 462 Jireb Agri lands.

Jawzjan : floods occurred on 15 June, 2006 and resulted in destroying 14 houses.

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